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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,527	07/07/2003	Damon Gerard van Opdorp	NZ010	9117

7590 08/23/2006

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EXAMINER

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ART UNIT	PAPER NUMBER
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2167

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/614,527	<b>Applicant(s)</b> VAN OPDORP, DAMON GERARD	
	<b>Examiner</b> Michael D. Pham	<b>Art Unit</b> 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Detailed Action**

1. Claims 1 - 55 have been examined.
2. Claims 1 - 55 are pending.
3. Claims 1 - 55 are rejected as detailed below.

***Priority***

Applicant has claimed on domestic nor foreign priority. Therefore the application has been treated to have an effective filing date of 7/7/2003.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23 and 53-55 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Prior 112 rejections from previous office action are withdrawn.
2. Claim 1 recites the limitation "the primary application" in the second limitation of the claim. There is insufficient antecedent basis for this limitation in the claim. All other claims are

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rejected for failing to resolve the deficiencies of claim 1 and further rejected for claims from which they depend.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 1 is rejected under 35 U.S.C. 101 non-statutory because the claim as written is directed to a computer program/software per se and is thus nonfunctional descriptive material.

Claims 2-23 and 54 are rejected under U.S.C. 101 for failing to resolve the deficiencies of claim 1. All other claims are rejected for failing to resolve the deficiencies of the claims from which they depend.

Nonfunctional descriptive material may be claimed in combination with other functional descriptive multimedia material on a computer-readable medium to provide the necessary functionality and structural interrelationship to satisfy the requirements of 35 U.S.C. 101. The examiner suggests the following for correction. "A computer implemented method", and canceling claims 53-54.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4, 6, 7-17, 19-20, 22-24, 26-39, 41-42, 44-46, 48-51, and 52-55 are rejected under 35 U.S.C. 102(e) as being anticipated by (U.S. Patent 6807632) by Carpentier et. al. (hereafter Carpentier).

**1. A method for verifying the integrity of a secondary application including the steps of:**

Carpentier discloses:

- i. obtaining a reference reduced representation by:**
  - a. applying a process to obtain schema metadata from the secondary application** [Carpentier, Col. 1 lines 54-59, “Data on computer systems can generally only be accessed through identifiers or location mechanisms which to a greater or lesser extent include information about the location of the file in the storage of the computer.”];

<sup>1</sup> An e-CLIP may represent a file, a group of files, a group of file identifiers, or other collections of data or

identifiers in the descriptor file may likewise be found using their respective unique binary sequence identifiers. When a particular binary sequence is obtained from a source, the cryptographic hash function is used to recompute the binary sequence identifier to verify that the asset obtained is the correct asset that was intended to be accessed. There is no restriction on the data, meta data or file system structure that can be stored and referenced by an e-clip.”];and

- v. **controlling execution of the primary application dependent on the outcome of the comparison** [Col. 12 lines 57-62“Once the descriptor file is received, the e-CLIP recipient is able to verify that the correct descriptor file has been recovered and then broadcasts requests for the files specified in the descriptor file. Those files are inserted into the directory structure specified in the descriptor file once they are received and verified.”].

**Claim 2:**

The method as claimed in claim 1 wherein the second application is a database [Col. 13 lines 25-34, “It must be noted that the examples used in this description all make reference to files. The assets, however, may be references to database records, video clips taken from within larger video streams, or other digital assets stored to be passed to other software programs or processes. Rather than instantiating directories and creating files with the contents of the digital assets, the recipient would make them available via some other standard application programming interface. “]

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database information.

**Claim 4:**

The method as claimed in claim 2 wherein the algorithm is a hash function [Carpentier, Col. 4 lines 49-50, cryptographic hash function is used to compute an identifier for the data being represented.. ].

**Claim 6:**

The method as claimed in claim 2 wherein the algorithm is a lossless compression algorithm[Carpentier, Col. 2 lines 8-10, "Examples of archive utilities include the "tar" archiving facility common on UNIX systems and the various "zip" programs on personal computers."].

**Claim 7:**

A method as claimed in claim 6 wherein the lossless compression algorithm is one selected from the set of zip, gzip, and bzip2[Carpentier, Col. 2 lines 8-10, "Examples of archive utilities include the "tar" archiving facility common on UNIX systems and the various "zip" programs on personal computers."].

**Claim 8:**

The method as claimed in claim 2 wherein the reference reduced representation is stored by embedding the representation within the primary application [Col. 12 lines 11-14, "Such e-



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CLIPs may be embedded in and readily accessed from database applications, legacy applications running on mainframes, text retrieval applications, web sites, etc”].

**Claim 9:**

**The method as claimed in claim 2 wherein the reference reduced representation is stored by embedding the representation within configuration files for the primary application [Col. 12 lines 30-36, “If the unique identifier is verified in step 310, then control is transferred to step 312 and the recipient builds the directory structure specified in the descriptor file. Programming logic is applied to perform system configurations and file operations to create the required directories, using programming operations such as those described by H[t]ML, for example.”].**

**Claim 10:**

**The method as claimed in claim 2 wherein step (i) is repeated before steps (ii) to (v) at least one time when an expected change occurs to the schema metadata in the database [Col. 1 lines 28-31, “digital information is highly subject to change and few methods are available to inspect the contents of the digital information to reliably recognize whether it has been changed since some prior time or event.” Col. 3 lines 1 – 9, “Currently, it is necessary to keep track of both the files that are on the requesting computer and the files that need to be added so that proper updates can be made. It would be useful if there existed a way to specify all of the files that are to be transferred and to encapsulate that specification in such a way that would allow the files to be retrieved from the most convenient place (locally, if possible). It would further be useful if such a method would allow the files to be reliably verified as the correct files. ].**

**Claim 11:**

The method as claimed in claim 2, wherein the process includes organizing the extracted schema metadata using a nested and determinable method [Col. 5 lines 30-36, "Having such file directory structure is helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure."].

**Claim 12:**

The method as claimed in claim 11 wherein the nested and determinable method is by alphabetical listing of the schema metadata elements [ Col. 9 lines 24-29, "The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below."].

**Claim 13:**

The method as claimed in claim 11 wherein the nested and determinable method is by default database order of the schema metadata elements [Col. 9 lines 24-29 "The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below."].

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**Claim 14:**

**The method as claimed in claim 11 wherein the nested and determinable method is by creation date order of the schema metadata elements** [Col. 9 lines 24-29 “The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below.”].

**Claim 15:**

**The method as claimed in claim 11 wherein the nested and determinable method is by table owner of the schema metadata elements** [Col. 9 lines 24-29 ”The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below.”].

**Claim 16:**

**The method as claimed in claim 2 wherein the execution of the primary application is controlled by halting execution of the primary application** [Col. 12 lines 25-28, “If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well.”].

**Claim 17:**

**The method as claimed in claim 2 wherein the execution of the primary application is controlled by the primary application sending an error message to one selected from the set of a user of the primary application, a manager of the primary application, a manager of the database, and the database [Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well."].**

**Claim 19:**

**The method as claimed in claim 2 wherein the process obtains all available schema metadata [Col. 13 lines 21-23, "If all files have been received, then control is transferred to step 414 and it is indicated that all of the e-CLIP files have been obtained"].**

**Claim 20:**

**The method as claimed in claim 2 wherein the process only obtains the schema metadata which would affect the primary application if that schema metadata were to change [Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well"].**

**Claim 22:**

**The method claimed in claim 2 wherein the process utilizes the database's API to obtain the schema metadata from the database [Col. 13 lines 28-34, "The assets, however, may be**

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references to database records, video clips taken from within larger video streams, or other digital assets stored to be passed to other software programs or processes. Rather than instantiating directories and creating files with the contents of the digital assets, the recipient would make them available via some other standard application programming interface.”]

**Claim 23:**

The **method as claimed in claim 22 wherein the database’s API is JDBC** [Col. 12 lines 62-67, “The process for broadcasting requests for files, receiving and verifying files, and modifying the broadcast request is accomplished in one embodiment using an importer, which is a small program encoded preferably in the JAVA programming language, or in any other suitable language”].

**Claim 24:**

A system for verifying for a plurality of applications the integrity of one or more databases including:

- vi. **a plurality of applications adapted to store a plurality of previously calculated reduced representations of schema metadata for one or more databases** [col. 12 lines 11-14, Such e-CLIPs may be embedded in and readily accessed from database applications, legacy applications running on mainframes, text retrieval applications, web sites, etc], **to extract a plurality of schema metadata for one or more databases** [Col. 13 lines 21-23, “If all files have been received, then control is transferred to step 414 and it is

indicated that all of the e-CLIP files have been obtained”], **to newly calculate a plurality of reduced representations from the plurality of extracted schema metadata**[Col. 14 lines 35-38, “Verification is achieved by comparing the cryptographic hash asset identifier to a newly generated MD5 cryptographic hash asset identifier calculated using the received asset (binary sequence)”], and **to compare each of plurality of previously calculated reduced representations with its corresponding newly calculated reduced representation** [Col. 5 lines 50-59, descriptor file is found using the e-clip, each of the files/records/assets corresponding to the binary sequence identifiers in the descriptor file may likewise be found using their respective unique binary sequence identifiers. When a particular binary sequence is obtained from a source, the cryptographic hash function is used to recompute the binary sequence identifier to verify that the asset obtained is the correct asset that was intended to be accessed. There is no restriction on the data, meta data or file system structure that can be stored and reference<sup>3d</sup> by an e-clip.”]; and

- vii. **one or more databases adapted to receive requests for schema metadata from the plurality of applications and to transmit schema metadata to the plurality of applications** [ Col. 12 lines 40-47, “Responses offering copies of the requested files are analyzed and copies of the files are retrieved from the most effective sources available including local file systems, local networked file systems available to the system on which the recipient is executing,

standard networking protocols such as the File Transfer Protocol (FTP), or through any other networked protocol as may be devised or specified.”].

**Claim 26:**

The system as claimed in claim 24 wherein the reduced representations are calculated using a hash function [Col. 14 lines 35-38, “Verification is achieved by comparing the cryptographic hash asset identifier to a newly generated MD5 cryptographic hash asset identifier calculated using the received asset (binary sequence)”].

**Claim 27:**

The system as claimed in claim 26 wherein the hash function is one selected from the set of MD5 and CRC32 [Col. 14 lines 35-38, “Verification is achieved by comparing the cryptographic hash asset identifier to a newly generated MD5 cryptographic hash asset identifier calculated using the received asset (binary sequence)”].

**Claim 28:**

The system as claimed in claim 24 wherein reduced representations are calculated using a lossless compression algorithm [Carpentier, Col. 2 lines 8-10, “Examples of archive utilities include the “tar” archiving facility common on UNIX systems and the various “zip” programs on personal computers.”].

**Claim 29:**

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The system as claimed in claim 28 wherein the lossless compression algorithm is one selected from the set of zip, gzip, bzip2 [Carpentier, Col. 2 lines 8-10, "Examples of archive utilities include the "tar" archiving facility common on UNIX systems and the various "zip" programs on personal computers."].

**Claim 30:**

The system as claimed in claim 24 wherein each previously calculated reduced representation is stored by embedding the representation within its associated application [Col. 12 lines 30-36, "Such e-CLIPs may be embedded in and readily accessed from database applications, legacy applications running on mainframes, text retrieval applications, web sites, etc"].

**Claim 31:**

The system as claimed in claim 24 wherein each previously calculated reduced representation is stored by embedding the representation within configuration files for its associated application [Col. 12 lines 30-36, "If the unique identifier is verified in step 310, then control is transferred to step 312 and the recipient builds the directory structure specified in the descriptor file. Programming logic is applied to perform system configurations and file operations to create the required directories, using programming operations such as those described by H[T]ML, for example."].

**Claim 32:**



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**The system as claimed in claim 24 wherein each schema metadata is organized using a nested and determinable method before its reduced representation is calculated** [Col. 5 lines 28-36, “In addition, an embodiment of the present invention is advantageous when file directory structure is also included with the file list. Having such file directory structure is helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure. Similarly, meta data about database records cataloged in a descriptor file can be used to identify tables or files to which those records pertain.”].

**Claim 33:**

**The system as claimed in claim 32 wherein the nested and determinable method is by alphabetical listing of the schema metadata elements** [Col. 9 lines 24-29, “The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below.”].

**Claim 34:**

**The system as claimed in claim 32 wherein the nested and determinable method is by default database order of the schema metadata elements** [Col. 9 lines 24-29, “The other assets information included with the file list may include directory information about how the

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assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below.”].

**Claim 35:**

The system as claimed in claim 32 wherein the nested and determinable method is by **creation date order of the schema metadata elements** [Col. 9 lines 24-29, “The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below.”].

**Claim 36:**

The system as claimed in claim 32 wherein the nested and determinable method is by **table owner of the schema metadata elements** [Col. 9 lines 24-29, “The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below.”].

**Claim 37:**

The system as claimed in claim 24 wherein the result of each comparison controls execution **of its associated application** [Col. 12 lines 25-28, “If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well.”].

**Claim 38:**

The system as claimed in claim 37 wherein the execution of the application is controlled by halting execution of the application [Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well."].

**Claim 39:**

The system as claimed in claim 37 wherein the execution of the application is controlled by the application sending an error message to one selected from the set of a user of the application, a manager of the application, a manager of the associated database, and the associated database [Col12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well."].

**Claim 41:**

The system as claimed in claim 24 wherein each application is adapted to extract all available schema metadata from each database [Col. 13 lines 25-28, "If all files have been received, then control is transferred to step 414 and it is indicated that all of the e-CLIP files have been obtained"]].

**Claim 42:**

The system as claimed in claim 24 wherein each application is adapted to extract the schema metadata which would affect the application if that schema metadata were to change [Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well"].

**Claim 44:**

The system as claimed in claim 24 wherein each application is adapted to utilize the databas's API to extract the schema metadata from each database [Col. 13 lines 28-34, "The assets, however, may be references to database records, video clips taken from within larger video streams, or other digital assets stored to be passed to other software programs or processes. Rather than instantiating directories and creating files with the contents of the digital assets, the recipient would make them available via some other standard application programming interface."].

**Claim 45:**

The system as claimed in claim 44 wherein the database's API is JDBC [Col. 12 lines 62-67, "The process for broadcasting requests for files, receiving and verifying files, and modifying the broadcast request is accomplished in one embodiment using an importer, which is a small program encoded preferably in the JAVA programming language, or in any other suitable language"].

**Claim 46:**

**A system for verifying for an application the integrity of a database including:**

- i. an application** [Col. 1 lines 22-27, “Digital information must often be identified to be in a particular state, denoted by the status of an asset (such as a file) as of some event or time. Such assets include traditional data files, multimedia files and fragments, records from structured databases, or any other string of digital information used wholly or in part by some application or device”];
- ii. a stored reduced representation of schema metadata of a database**[Col. 5 lines 57-59, “There is no restriction on the data, meta data or file system structure that can be stored and referenced by an e-CLIP”]; and
- iii. a verification engine which upon connection to a database obtains a reduced representation of schema metadata from the database and compares it with the stored reduced representation to control the application** [Col. 12 lines 57-62, “Once the descriptor file is received, the e-CLIP recipient is able to verify that the correct descriptor file has been recovered and then broadcasts requests for the files specified in the descriptor file. Those files are inserted into the directory structure specified in the descriptor file once they are received and verified.”].

**Claim 48:**

**The system as claimed in claim 46 wherein the reduced representations are calculated using a hash function** [col. 14 lines 34-38, “Verification is achieved by comparing the cryptographic

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hash asset identifier to a newly generated MD5 cryptographic hash asset identifier calculated using the received asset (binary sequence)"].

**Claim 49:**

The system as claimed in claim 46 wherein the reduced representations are calculated using a hash function [Col. 14 lines 34-38, "Verification is achieved by comparing the cryptographic hash asset identifier to a newly generated MD5 cryptographic hash asset identifier calculated using the received asset (binary sequence)"]].

**Claim 50:**

The system as claimed in claim 48 wherein each schema metadata is organized using a nested and determinable method before its reduced representation is calculated [col. 5 lines 28-38, "In addition, an embodiment of the present invention is advantageous when file directory structure is also included with the file list. Having such file directory structure is helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure. Similarly, meta data about database records cataloged in a descriptor file can be used to identify tables or files to which those records pertain."].

**Claim 51:**

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**The system as claimed in claim 46 wherein the application is controlled by halting execution of the application** [Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well."].

**Claim 52:**

**The system as claimed in claim 46 wherein the application is controlled by the application sending an error message to one selected from the set of a user of the application, a manager of the application, a manager of the associated database, and the associated database** [col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well."].

**Claim 53:**

**The computer system for effecting the method of claim 1** [col. 17 lines 67-67 and col. 18 line 1, "In addition, embodiments of the present invention further relate to computer storage products with a computer-readable medium that have computer code thereon for performing various computer-implemented operations. The media and computer code may be those specially designed and constructed for the purposes of the present invention, or they may be of the kind well known and available to those having skill in the computer software arts."].

**Claim 54:**

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**Software for effecting the method of claim 1** [col. 17 lines 67-67 and col. 18 line 1, “In addition, embodiments of the present invention further relate to computer storage products with a computer-readable medium that have computer code thereon for performing various computer-implemented operations. The media and computer code may be those specially designed and constructed for the purposes of the present invention, or they may be of the kind well known and available to those having skill in the computer software arts.”].

**Claim 55:**

**Storage media containing software as claimed in claim 54** [col. 17 lines 67-67 and col. 18 line 1, “In addition, embodiments of the present invention further relate to computer storage products with a computer-readable medium that have computer code thereon for performing various computer-implemented operations. The media and computer code may be those specially designed and constructed for the purposes of the present invention, or they may be of the kind well known and available to those having skill in the computer software arts.”].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



*Claims 18, 21, 40, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carpentier as applied to claims 1-2, 4, 6, 7-17, 19-20, 22-24, 26-39, 41-42, 44-46, 48-51, and 52-55 above, and further in view of U.S. Patent 6,957,221, Hart et. al. (hereafter Hart).*

**Claim 18:**

**Carpentier discloses the method of claim 2.**

**However Carpentier does not explicitly discloses including the step of:**

**requesting a schema stability lock of the database.**

On the other hand Hart, discloses, Col. 5 lines 43-47, audit blocking which is “..a structured package containing potentially many Audit Records (in the extreme situation, it is also possible that a single Audit Block could only contain a partial Audit Record). There are a number of control words at the beginning and end of each audit block.”.

Therefore it would have been obvious to one of ordinary skill to modify Carpentier to include the steps of requesting a schema stability lock of the database for the purpose of avoiding interference with changes being made to the data.

**Claim 21:**

**Carpentier discloses the method as claimed in claim 2; however Carpentier does not explicitly disclose wherein the process utilizes SQL 92 <sup>2</sup>standard to obtain the schema metadata from the database**

Hart discloses, Col. 10 lines 62-65, standardized language for defining querying, maintaining, and protecting the contents of a relational database.

Therefore it would have been obvious to one of ordinary skill to modify Carpentier to include the step of having the process utilize SQL 92 standard to obtain the schema metadata from the database, based on the disclosure of Hart for the purpose of modifying a database.

**Claim 40:**

Carpentier discloses the system of claim 24.

However Carpentier does not explicitly discloses **including the step of:**  
**requesting a schema stability lock of one or more database.**

On the other hand Hart, discloses, Col. 5 lines 43-47, audit blocking which is “..a structured package containing potentially many Audit Records (in the extreme situation, it is also possible that a single Audit Block could only contain a partial Audit Record). There are a number of control words at the beginning and end of each audit block.”.

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<sup>2</sup> interpreting as structured query language.

Therefore it would have been obvious to one of ordinary skill to modify Carpentier to include the steps of requesting a schema stability lock of the database for the purpose of avoiding interference with changes being made to the data.

**Claim 43:**

The system as claimed in claim 24 wherein each application is adapted to utilize the SQL92 standard to extract the schema metadata from each database [Hart, A standardized language for defining, querying, maintaining, and protecting the contents of a relational database.].

Hart discloses, Col. 10 lines 62-65, standardized language for defining querying, maintaining, and protecting the contents of a relational database.

Therefore it would have been obvious to one of ordinary skill to modify Carpentier to include the step of having the process utilize SQL 92 standard to obtain the schema metadata from the database, based on the disclosure of Hart for the purpose of modifying a database.

***Claim 3, 5, 25, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carpentier as applied to claim 1-2, 4, 6, 7-17, 19-20, 22-24, 26-39, 41-42, 44-46, 48-51, and 52-55 above, and further in view of Admitted prior art (Application Background, hereafter Background).***

**Claim 3:**

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Carpentier discloses the method of claim 2 however does not explicitly disclose **wherein the schema metadata is selected from the set of tables, columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs.**

**Background discloses on page 1: “Schema metadata includes tables, columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs.”**

Both inventions are directed towards verification of data. Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify Carpentier to include the steps of having schema metadata selected from the set of tables columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views triggers, indices, and scheduled jobs based on the disclosure of the Background for the purpose of assuring “integrity of the structure of database before using it.”

**Claim 5:**

**The method as claimed in claim 3 wherein the hash function is one selected from the set of MD5 and CRC32 [Carpentier, Abstract, MD5].**

**Claim 25:**

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Carpentier discloses the method of claim 24 however does not explicitly disclose **wherein the schema metadata is selected from the set of tables, columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs.**

**Background discloses on page 1: “Schema metadata includes tables, columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs.”**

Both inventions are directed towards verification of data. Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify Carpentier to include the steps of having schema metadata selected from the set of tables columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views triggers, indices, and scheduled jobs based on the disclosure of the Background for the purpose of assuring “integrity of the structure of database before using it.”

**Claim 47:**

**Carpentier discloses the system of claim 46 however Carpentier does not explicitly disclose wherein the schema metadata is selected from the set of tables columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views triggers, indices, and scheduled jobs**

**Background discloses on page 1: “Schema metadata includes tables, columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs.”**

Both inventions are directed towards verification of data. Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify Carpentier to include the steps of having schema metadata selected from the set of tables columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views triggers, indices, and scheduled jobs based on the disclosure of the Background for the purpose of assuring “integrity of the structure of database before using it.”

### ***Response to Arguments***

Applicant's arguments filed 6/13/2006 have been fully considered but they are not persuasive. Applicant's assert the following (numbered):

1. That Carpentier teaches away from using only metadata at column 13 lines 44-51 by stating that their invention is content addressable and that identifiers that are not content addressable may be readily spoofed. That schema metadata is structural data about the database and not location data about the database. That “data on computer systems can generally only be accessed through identifiers or location mechanisms which to a greater or lesser extent include information about the location of the file in the storage computer” does not disclose “applying a process to obtain schema metadata from the secondary application”

*First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **schema metadata is structural data about the database**) are not recited in the rejected claim(s).*

*Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).*

*Secondly, schema metadata from an application in broad terms may consist of such things as database relationships (i.e. col. 11 lines 5-10), file names, file creation date, file size or other application meta-data. Therefore, such schema metadata is disclosed by Carpentier col. 13 lines 47-49. It is further noted that such applications being claimed are not necessarily directed towards applications that use databases nor a database itself. Lastly, as to "data on computer systems can generally be accessed through identifiers or location mechanisms which to a greater extent include information about the location of the file in storage. For further clarification lines col. 1 lines 59-67 users access the data through stored or remembered names which include elements which are readily changed by others. That is, obtaining schema metadata such as filenames from another application must be done in order to complete the transaction.*

2. That Carpentier can only be used to compare identical data assets. That the advantage of the present invention creating reduced representations from the schema metadata is that structurally

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similar databases that differ in content can be compared and verified for use by an application. Essentially, applicants argue that the e-clip cannot be used to compare structurally identical databases containing different data.

*In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that a comparison of structurally identical databases containing different data must be made) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).*

3. That the advantage of the present invention creating reduced representations from the schema metadata is that structurally similar databases that differ in content can be compared and verified for use by an application.

Please see 2.

In summary the applicant's main argument that is relied upon is that structurally similar databases that differ in content can be compared and verified for use by an application; however structurally similar databases that differ in content as indicated by applicant is not being claimed.

### ***Conclusion***



The prior art made of record, listed on form PTO-892, and not relied upon, if any, is considered pertinent to applicants disclosure.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D. Pham whose telephone number is (571)272-3924. The examiner can normally be reached on Monday - Friday 9am - 5:00pm.

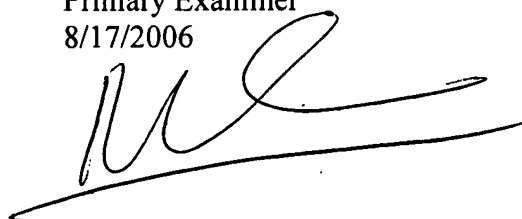
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Examiner  
8/17/2006

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